

Service Letter

Service Letter No. 445 September, 1995

SUBJECT: Solenoid Flux Ring Failures

MODELS AFFECTED: ALL

Jacobs has recently seen failures of the internal flux ring in the Single-lead Solenoid, P/N 016440, and Dual-lead Solenoid, P/N 019650, manufactured prior to May, 1995. These failures have occurred on Models 310A, 760A and 765, but any Jake Brake® engine retarder could be affected. This failure is difficult to diagnose because the problem may be evident to the driver only when the engine is warm.

The cause of the failure is a breakdown of the internal flux ring around the solenoid coil which opens up an air gap in the coil's magnetic field. When the air gap gets too large, the magnetic field becomes too weak to hold the solenoid valve open and the engine brake won't turn on. The hotter the solenoid becomes, the weaker the magnetic field. This is due to both temperature and the growth in the air gap (due to expansion). When the solenoid cools down (while troubleshooting in the maintenance shop), it may begin to work again.

The problem can be detected by looking at the gap between the tangs of the solenoid cap and the solenoid cup (as shown below). If this gap is visible (more than 0.010") or if the gap can be closed by pushing on the cap, the solenoid has most likely failed and should be replaced.

If the date code next to the part number on the solenoid is "E5" or greater, the solenoid was manufactured after May, 1995 and has an improved flux ring.

This is a Jacobs product advisory and is not subject to campaign.

